

## ABSTRACT

The current growing IEEE standard is 802.11n has RTS / CTS access arms that work at 2.4 GHz and 5 GHz frequencies. RTS / CTS mechanism works to avoid collisions or collisions on the station in a scope of access point that is attacked by Hidden Station. In Telkom University 802.11n has been applied, but not yet detected users who use the 5 GHz frequency. It takes research implementation of the influence of hidden station at 5 GHz frequency at Telkom University using simulation.

In this final project using software that is Network Simulator 3.25 (NS3.25). To detect the effect of hidden station used three parameters consisting of throughput, delay, and packet delivery ratio (PDR). The simulation is designed using three scenarios based on the three methods that have been determined that Method A, Method B and Method C difference from each Each of these methods is the position of the station location and the hidden station and the composition of the number of stations in the range of 10 to 30 stations, each composition is done by adding the number of stations with five-fold intervals. This is done to compare the three methods in using RTS / CTS access mechanism.

Based on three method that is Method A, Method B and Method C. In this three method can be concluded throughput, PDR yielded is proportional to increase of station number and hidden station, and happened increase of delay caused by collision. However, based on the design simulation the use of RTS / CTS can be used when the number of stations more than 20 stations in Method A and Method B while Method C can not be used. Because there are data frame RTS / CTS that cause process of access of transmission become slow so that decreasing value of throughput and PDR caused by packet loss.

Key word : IEEE 802.11n, *Hidden node*, *RTS/CTS*, *throughput*, *delay* dan *PDR*